



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : A63B 55/00	A1	(11) International Publication Number: WO 96/01668 (43) International Publication Date: 25 January 1996 (25.01.96)
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(21) International Application Number: PCT/US95/08292

(22) International Filing Date: 30 June 1995 (30.06.95)

(30) Priority Data:
08/271,500 7 July 1994 (07.07.94) US(71) Applicant: OGIO INTERNATIONAL, INC. [US/US]; 3160
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Lake City, UT 84111 (US).(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH,
CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE,
KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN,
MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
TJ, TM, TT, UA, UG, UZ, VN, European patent (AT, BE,
CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT,
SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML,
MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ,
UG).

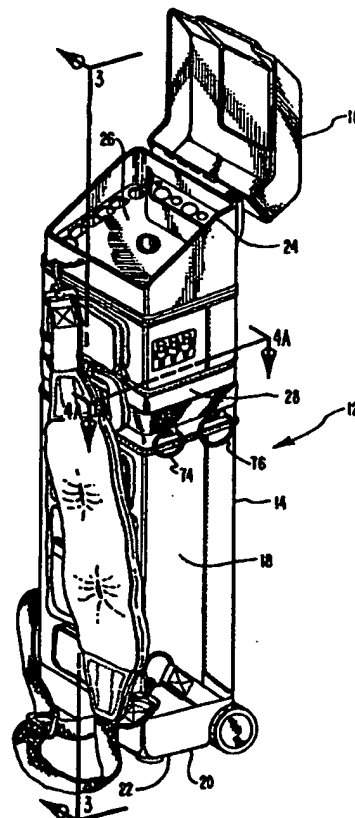
Published

With international search report.

(54) Title: GOLF CLUB CASE

(57) Abstract

A golf club case (12) is provided having a perimetrical sidewall (18) and a floor (20), which encloses a central interior chamber (28). Golf clubs are placed in wells (42) which are located near the perimeter of the perimetrical sidewall (18). By placing the clubs at the perimeter of the case, a central storage chamber (28) is left unobstructed and can be used for storing golfing equipment inside of the golf club case. Access to a central interior chamber (28) is made through an access opening (68) which can be selectively covered by utilizing any of a number of closure systems such as a hinged lid (16) or a zippered cover (70). The case is also provided with wheels (54) so that the case can be pulled behind the user on a hard surface such as a parking lot.



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GOLF CLUB CASE**BACKGROUND****1. Field of the Invention**

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This invention relates generally to a device for carrying and protecting golf clubs. More specifically, this invention relates to a golf club case having a housing which protects the golf clubs on the golf course, but also in a variety of other environments such as in airports or when the player is engaged in other forms of travel requiring protection of the clubs during transport.

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2. Background Art

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The sport of golf has been enjoyed by participants for many years. The game is played with a set of golf clubs typically consisting of three woods, ten irons, and a putter. The woods, which are standardized with the numbers 1 through 5, are used by the golfer for long drives, whereas the irons, which are standardized with the numbers 1 through 9, are used for shorter shots. The putter is employed only on the green where the ball remains on the grass for very short shots requiring more accuracy. Although the game, and particularly, the club design have evolved over the years, clubs have traditionally had a long handle or shaft to which is attached a shaped head, the shape of the head varying depending on the function of the club.

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Because of the need for a variety of clubs to be utilized by each player to accommodate differing requirements presented by the course and the golfers position among the various hazards, several systems for carrying golf clubs have been developed. One traditional device for carrying golf clubs is the golf bag. The traditional golf bag is fabricated of leather or of other fabric material and is adapted to allow the player or caddie to carry a full compliment of golf clubs. Golf bags frequently provide outside pockets for storing balls, tees, towels and golf shoes and an open central cylinder for storing clubs. Because most courses are rather long and a loaded golf bag is fairly heavy, the bag usually incorporates a shoulder strap or is placed upon a pull-cart to lighten the load for the player.

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As golf courses are located throughout most of the world, many players incorporate golf into their business or vacation travels. Rental of clubs at a destination, however, is not desirable since most serious golfers utilize clubs which are custom built specifically for each player. As a result, the serious golfer is required to transport his or her golf clubs to each resort. During transport, however, the beneficial characteristics of

5 light-weight and compliance to the shoulder of the bearer which make the golf bag so comfortable during play on the golf course become problematic.

Golf bags may be mishandled by baggage attendants or crushed under other baggage. As a result, the traditional golf bag is not capable of adequately protecting golf clubs during travel. In fact, many commercial airlines refuse to accept golf bags as
10 luggage because of the liability of damage to the clubs during transport. In addition, the typical golf bag and clubs are too long to be stored in the overhead compartment of a commercial aircraft.

To overcome these problems, most commercial airlines require that typical golf bags be placed in a special travel container to protect the bag and the clubs held therein
15 from damage during transport. Unfortunately, this requires extra time during check-in and does not always successfully protect the clubs from the rigors of transport.

Once the golf bag has arrived at the golf course, the bearer may face other dilemmas. For example, many golf bags equipped with straps for carrying the bag locate the strap in such a way that it interferes with access to the pockets on the outside of the
20 bag. In addition, many bags merely provide an open cavity within which the clubs are placed. When the bag is hefted, the clubs can shift putting the bearer off- balance and possibly mar the highly finished surfaces of the clubs. This open cavity also makes it difficult to retrieve items from the bottom of the bag as the clubs interfere with the users access to the lower portion of the bag.

25 To protect the clubs from abrasions caused by contact with the other clubs, socks are often placed over the heads of the clubs. These socks are inconvenient, however, as they must be removed and stored during play. To prevent this shifting of clubs, some bags incorporate club holders which hold the grip or shaft of the club. These club holders, however, may cause premature wear on the clubs.

30 Another problem associated with golf bags is that most bags do not provide any protection from rain. These bags require a rain cover to protect the bag and its contents. If the rain cover is left at home, clubs or other articles can rust or become damaged by repeated contact with water. As the typical golf bag has pockets which are located on the outside of the bag, articles stored in the pockets can also get wet and the pockets can snag
35 on objects if the golfer is unfortunate enough to carry the bag through trees or brush. The pockets also provide little protection from theft. In addition, these outside pockets make it difficult to load the bag into the trunk of a car and the outside pockets provide little protection from crushing the objects held therein.

5 Likewise, as the clubs must be easily accessible, most golf bags present the heads of the clubs in clear view at the top of the bag. This clear presentation works as an encouragement to theft when the clubs are unattended.

BRIEF SUMMARY OF THE INVENTION

10 In accordance with the invention as embodied and broadly described herein, a golf club case is provided having a perimetrical sidewall and a lid. The perimetrical sidewall has a top and a bottom with a floor being attached to the bottom to form a central interior chamber. An indexing plate is fixed across the top of the central interior chamber near the top of the perimetrical sidewall. Golf clubs are placed in wells which depend downwardly
15 from the indexing plate. The indexing plate both orients and supports the golf club heads. In some embodiments, a lid may be hinged near the top of the perimetrical sidewall to enclose the golf club heads when the lid is shut.

 A latch selectively maintains the shut position until the user wishes to open the lid to gain access to the clubs. A lock may be provided to secure the lid in a shut position
20 thereby completely obscuring the clubs from view and preventing unauthorized removal of the clubs from the case. In one embodiment of the present invention, an alarm is also provided which warns the owner of the case when the case is being moved or when unauthorized entry is attempted.

 An access opening is formed within the perimetrical sidewall to provide access to
25 the central interior chamber. The openings in the indexing plate are arranged so that the clubs are placed in wells which are contiguous with the perimetrical sidewall. This results in the central interior chamber being free from obstruction by the shafts of the golf clubs. In one embodiment, the well for the putter is distinguished from the wells for the other clubs in that the putter well is angled from an opening which is removed from the
30 perimeter of the indexing plate. This putter well is angled so that the well intrudes upon the central interior chamber as little as possible. This angling of the well also eases removal of the club from the case. As the putter is the most-used club, the angled putter well assists in the removal of this club. Putters also have heads which can vary dramatically in size and shape. The location of the opening to the putter well provides
35 sufficient space on the indexing plate to accommodate many putter head sizes and shapes.

 In the preferred embodiment of the present invention, trays are placed transversely across the central interior chamber to divide the central interior chamber into three separate central storage chambers. It can be appreciated that the size of the chambers can be varied to accommodate different sized objects to be stored within each of the central

5 storage chambers. In the preferred embodiment, the putter well is angled so that it does not interfere with either of the two lower central storage chambers. Fixed access openings are formed in the perimetrical sidewall to provide entry into each of the central storage chambers.

10 Because the club shafts are directed contiguous with the perimetrical sidewall, there is a large amount of central storage space which now can be utilized and which has heretofore been wasted. Due to this efficient use of space, all of the equipment which was formerly stored in pockets on the outside of golf bags may now be stored within the interior of this inventive golf club case. This results in the exterior case being free from pockets which can snag or allow items to get wet and also protects items stored within
15 the interior of the case from theft and damage.

The access openings can be closed by a number of methods, the most preferred method being a zippered, fabric material pouch. In one preferred embodiment of the present invention, this zippered, fabric pouch entry may also have formed on the inner-side of the entry a small pocket which becomes accessible when the entry is open.

20 A set of small wheels or casters may be fixed to the bottom of the housing in embodiments to allow the case to be pulled behind the user on hard surfaces such as airport terminals. To provide even more security, one embodiment of the invention utilizes a zippered fly which, when zipped completely covers all of the access openings and allows the zippers to then be covered by the lid when the lid is shut. The case also
25 has structures formed in the back of the housing which compliment structures in a pull-cart to allow the case to be placed on a pull-cart to take advantage of the larger wheel diameter when on the golf course. A handle may also be attached to the back of the housing near the top thereof in one embodiment to allow the user to more easily pull the case.

30 A fabric material may be used to enclose the rigid housing for aesthetic purposes and also to serve as an attachment point for some structures which can optionally be placed on the exterior of the housing such as an umbrella loop or a towel strap. When the inventive case is to be borne by the user instead of pulled, a shoulder strap is attached to attachment points on the front of the housing. The shoulder strap is slidingly attached
35 with a clip to an angled bracket so that the clip slides downward to the side when not in use yet also self-centers by sliding upward and to the center when the bag is placed on the shoulder of the user. This allows the strap to slide out of the way of the access openings when the bag is on the ground but centers the weight of the bag for comfortable carrying when the bag is lifted.

5 To assist the user in loading the bag in the trunk of a car, an indentation is formed within the bottom of the housing to form a finger hold so that the bottom of the housing can be more easily grasped by the user.

BRIEF DESCRIPTION OF THE DRAWINGS

10 In order to more completely understand the manner in which the above-recited and other advantages and objects of the invention are obtained, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings. Understanding that these drawings depict only typical embodiments of the invention and are therefore not to be considered limiting of its scope, the invention will be described with additional
15 specificity and detail through the use of the accompanying drawings in which:

Figure 1 is an elevational view of the side of a golf club case with the lid in the open position;

Figure 2 is a top view of a bag like that shown in Figure 1;

20 Figure 3 is a vertical cross-sectional view taken along lines 3-3 in Figure 1;

Figure 4A is a horizontal cross-sectional view taken along lines 4A-4A in Figure 1;

Figure 4B is a horizontal cross-sectional view of an alternate embodiment having a central interior chamber which is free of obstruction by the golf club shafts;

25 Figure 5 is a bottom view of the embodiment illustrated in Figure 1;

Figure 6 is an elevational view of one side of the golf club case illustrated in Figure 1;

Figure 7 is an enlarged view of an access opening and a zippered closure;

30 Figure 8 is an elevational view of an alternate embodiment depicting a zippered fly;

Figure 9 is an alternate embodiment of a golf club case having an indexing plate located lower within the case and having an opening at the top;

Figure 10 is a cross-sectional view of the case shown in Figure 9 taken along lines 10-10;

35 Figure 11 is a vertical cross-sectional elevational view of an alternate embodiment of the present invention utilizing a light weight frame and cover; and

Figure 12 is a horizontal cross-sectional view taken along lines 12-12 in Figure 11.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Most golf bags are accessible only from the top of the bag. Clubs are placed through the opening at the top of the bag and are allowed to rattle around in the bag. As most ancillary devices such as tees, balls, shoes and towels are stored outside the bag in exterior pockets, there is no need to access the lower portion of the bag's interior. This arrangement, however, results in much unused space in the bag. The instant invention, however, moves the storage formerly provided by exterior pockets into the previously unused interior space thereby creating a central storage area.

Figure 1 is a perspective view of the side of the golf club case shown generally as 12 having a rigid unitary housing 14 and a lid 16. Rigid unitary housing 14 is made up of a perimetrical sidewall 18 and a floor 20. Floor 20 is located at a bottom 22 of perimetrical sidewall 18. As used in this specification, the term "unitary housing" defines a housing which has sides which are constructed of material which is not easily deformable and which is constructed of sides and a floor which remain unitary or of one piece during use. The unitary housing can be distinguished from prior art housings which have two or more portions which are hinged together along the longitudinal axis to provide a clam shell-type arrangement. These clam shell-type housings are not unitary. The term "unitary perimetrical sidewall" as used in this specification is defined as a structure which is not subdivided into smaller parts which are hinged or moved together. The unitary perimetrical sidewall remains unitary at all times. The sidewall is formed of one piece. Located within the sidewall is an indexing plate 26. Indexing plate 26 is located transversely across a central interior chamber 28 formed within perimetrical sidewall 18.

In the embodiment illustrated in Figure 1, indexing plate 26 is fixed at an angle so that all the golf clubs may be viewed more easily. The angling of indexing plate 26 also makes it easier to select one of the clubs from among the others carried in the golf club case and allows the clubs with longer shafts to be positioned near the back. It will be appreciated that the angle of indexing plate 26 may be varied. Indexing plate 26 may be mounted on tracks which allow the indexing plate angle to be varied to shorten the distance between the club heads and the base of the case or to make the clubs more accessible by the user.

The function of indexing plate 26 is more clearly depicted in Figure 2 wherein a top view of the golf club case is presented. Indexing plate 26 is located below top 24 of perimetrical sidewall 18. In this particular embodiment, indexing plate 26 is recessed below top 24 so that padding may be placed on indexing plate 26 while still allowing lid 16 to be shut.

5 It is preferred that some form of padding be placed upon indexing plate 26 to protect the finish of the heads of the clubs which rest thereon. Indexing plate 26 serves several functions, one function being to orient the heads of the clubs so that all of the clubs will fit with their shafts placed around the perimeter of indexing plate 26. If the heads are not properly oriented, some heads can preclude the proper placement of the other heads within the case. Indexing plate 26 also serves to support and cradle the clubs within the case. In this embodiment, all of the clubs rest with their heads against indexing plate 26 or on padding placed on indexing plate 26 and their shafts depend downwardly with no other vertical support.

10 As discussed previously, another function of indexing plate 26 is to protect the finish on the portion of the head of the club which rests upon the padding on indexing plate 26. The finish on the remainder of the club head is protected by padding which is placed within lid 16. Thus, when lid 16 is closed, the heads are substantially surrounded by the padding which not only protects the finish of the clubs, but also prevents them from rattling around while they are moving during transport.

15 In use, the club heads may be rotated outwardly to provide easier access to all of the clubs. In addition, the putter and other frequently used clubs may be held in means for securing golf clubs to the outside of the golf case. By way of example, the means for securing could be clips attached to the exterior of the case so that those clubs can be easily retrieved. The clips are much like the clips used to hold ski poles together.

20 As can be seen in Figure 2, a series of shaft receiving apertures 30 are formed around the perimeter of indexing plate 26. Shaft receiving apertures 30 guide the placement of the golf club shaft as the clubs are put into the case. In some embodiments of the present invention, other openings may also be formed around the perimeter to carry items such as umbrellas or ball retrievers or other long items.

25 It is important that any extra receiving apertures be placed around the perimeter of the bag so that the central interior chamber remains as open as possible. The exception to this rule is putter aperture 32. Since the putter is the most frequently used club and putters vary dramatically in the size and shape of their heads, it has been found necessary to sometimes locate putter aperture 32 at a position away from the perimeter of indexing plate 26 within indexing plate 26. To prevent the putter from unduly intruding upon central interior chamber 28, however, the well which depends below putter aperture 32 is angled toward one of the sides of the bag so that there is as little intrusion as possible within the central interior chamber. This angle of the putter well not only prevents

5 interference with the central interior chamber but also aids in the extraction of the putter from the case.

The orientation of the putter within the case is better illustrated in Figure 3 which is a vertical cross-section taken along lines 3-3 in Figure 1. In Figure 3 it can be seen that a putter well 40 depends downwardly from putter aperture 32 in indexing plate 26 until
10 putter well 40 intersects with perimetrical sidewall 18.

Since the putter is typically shorter than the other clubs, it is not necessary that putter well 40 extend to the bottom of housing 14. A series of clubwells 42 depend vertically downwardly from their corresponding shaft receiving apertures 30 in indexing plate 26 to a point near floor 20 of housing 14. These clubwells parallel and are
15 contiguous with perimetrical sidewall 18 so as to intrude as little as possible on central interior chamber 28. In some embodiments of the present invention, an interior wall 44 is located against clubwells 42 to present a smooth interior surface to the central interior 28.

To exploit the space within central interior chamber 28 to its fullest, central interior chamber 28 may be divided into several central storage chambers 46. In the
20 embodiment illustrated in Figure 3, central interior chamber 28 has been subdivided into three central storage chambers 46. Central storage chambers 46 can be configured to accept equipment of different sizes and shapes. For example, the upper-most central storage chamber may be configured much smaller than the two remaining storage
25 chambers or fewer central storage chambers may be created to accommodate larger equipment.

The central storage chambers are formed when a dividing tray 48 is integrated into the case. Dividing tray 48 may be permanently bonded to interior wall 44 or to clubwells 42 by mechanical means or by chemical solvent means or dividing trays 48 may be placed
30 on a track system so that dividing trays 48 may be moved within central interior chamber 28 to vary the size of central storage chamber 46.

To insure that lid 16 remains closed over the club heads when the case is being transported, a latch 50 is located in the leading edge of lid 16. A corresponding hook 52 is incorporated into the top of the front of perimetrical sidewall 18 to cooperate with latch
35 50 to selectively secure lid 16 in a closed position. A lock 58 may also be provided to secure lid 16 in a closed position and to prevent unauthorized access to the golf clubs stored within golf club case 12.

Near floor 20 of housing 14 are means for rolling the golf club case. By way of example and not limitation the means for rolling the golf club case in the embodiment

5 depicted in Figure 3 are a set of wheels and an axle collectively referred to as 54 which are rotationally coupled to bottom 22 of perimetrical sidewall 18. These wheels are intended for use in pulling the golf club case across hard surfaces such as in an airport terminal or parking lot.

10 A handle 56 may also be attached to the back of perimetrical sidewall 18 to aid in balancing and pulling the bag on wheels and axle assembly 54. Handle 56 may also include biasing means to urge the handle to return to a resting position against perimetrical sidewall 18. In other embodiments, the handle may be molded integrally with the sidewall.

15 The internal structures of golf case 12 may be better understood by reference to Figure 4A which is a horizontal cross-section taken along lines 4-4 in Figure 1. The positioning of clubwells 42 around the perimeter of housing 14 allows central interior chamber 28 to be relatively free from obstruction thereby providing space for storage typically held in pockets located outside the golf bag. Interior wall 44 provides a smooth surface so items can be more easily retrieved from the central storage areas 46 which are formed within case 12. At the point where the cross-section in Figure 4 is taken, putter well 40 still intrudes somewhat upon central storage chamber 46, but this intrusion is already rapidly diminishing even at this relatively high point within central interior chamber 28.

20 An alternate embodiment of the present invention is depicted in Figure 4B which is a horizontal cross section depicting a central interior chamber 28 which is free from obstruction by any of the golf club's shafts, the putter well in the embodiment in the illustrated in Figure 4B will be located along the perimeter of the case and would depend vertically parallel to the perimetrical sidewall 18. The advantage of this embodiment is that the central interior chamber 28 and any central storage chambers 46 are completely free of obstruction and therefore available for storage.

25 One surprising result discovered in the testing of the preferred embodiment is that the positioning of the golf club shafts along the perimeter of the case not only provides for interior storage and prevents the clubs from shifting when the case is hefted, but this arrangement also places the weight of the clubs, namely the heads of the clubs, near the center of the bag thereby allowing the bag to be much more balanced and more easily controlled.

30 Referring now to Figure 5, as can be seen from this bottom view of the golf club case, a finger groove 60 is provided within floor 20. Finger groove 60 serves to provide a purchase for a users' hands when loading the golf bag into an elevated location such as the trunk of a car. In the embodiment of the instant invention depicted in Figure 5,

5 means for attaching a pull-cart are also provided. By way of example and not limitation, the means for attaching a pull-cart depicted in Figure 5 are a series of structures collectively referred to as pull-cart structures 62 formed within floor 20 of housing 14 which enables case 12 to be placed upon a pull-cart which has structures corresponding to those formed within floor 20.

10 Figure 6 is an elevational view of the front of golf case 12. A carrying strap 66 allows the user to carry the case upon his or her shoulder. The instant invention may also incorporate means for positioning a strap in the center of the case when the case is being carried and means for positioning the strap to the side of the case when the case is not being carried.

15 In the embodiment illustrated in Figure 6, both of these means are incorporated into the same structures, namely the clasp 67 and an inclined rod 69. Carrying strap 66 is attached to case 12 at three points; one point 21 is near the top 24 of perimetrical sidewall 18; and the second and third points are near the bottom 22 of perimetrical sidewall 18.

20 At the top most attachment point 21 inclined rod 69 is affixed to case 12. Inclined rod 69 is inclined downwardly away from the center of case 12 so the clasp 67 of strap 66 is pulled by gravity to the lowermost portion of inclined rod 69 when the case is not being carried.

25 When the case is being carried, the strap 66 is placed upon the shoulder of the bearer, then gravity forces case 12 downward thereby forcing clasp 67 to slide along inclined rod 69 to its uppermost position which is located centrally on housing 12. Strap 66 has an inverted "Y" shape. The lower legs of the inverted "Y" attach to the case at the second and third attachment points 23. This attachment may be accomplished with hooks and rings or other known attachment systems. As a result of the sliding of clasp 67 along inclined rod 69 and the inverted "Y" shape of the strap, strap 66 moves to a central position when the bag is being carried and slides to an alternate position at the side of housing 12 when not in use to thereby allow easier access to central interior chamber 28.

30 An access opening 68 provides access to central interior chamber 28 in general and in the embodiment illustrated in Figure 6 to one of the subdivided central storage chambers 46. To close access opening 68, a cover 70 is provided.

35 In the embodiment provided in Figure 6, the cover is zippered so that the user may gain entry into central interior chamber 28 through access opening 68. It will be appreciated that many closure mechanisms can be utilized to cover access opening 68,

5 such as hook and loop closures, zippers, hinged doors snaps or buckles. One alternate method for covering access opening 68 is illustrated in Figure 7.

Figure 7 depicts an enlarged view of access opening 68 having a zippered cover 70. Zippered cover 70 zippered to provide access to a central interior chamber of the case to access equipment which is stored therein. The sides of zippered cover 70 are attached to the case by baffles 71 which prevent small items from falling out of the case when zippered cover 70 is opened. Baffle 71 are especially helpful in preventing golf balls from falling out. Attached to the front of zippered cover 70 are exterior pocket 73. In this embodiment there are two exterior pockets located on the outside of zippered cover 70. Access to the interior of these pockets is gained through a zipper 75. It would be appreciated that any of the known closure means can be utilized in place of the zipper. In this embodiment cover 70 is opened from the top to prevent spilling the contents of the pocket when the pocket is opened. Attached to the inside of cover 70 is an interior pocket 77. Interior pocket 77 is less accessible than the exterior pockets and is thereby more secured from theft. The items placed in interior pocket 77 are also better protected from the weather.

In the embodiment illustrated in 77, golf club case is covered in the area surrounding the access opening 78 which allows the zipper on cover 70 to be attached to the case as well as to cover 70. This fabric also serves to protect the case from scuffing as well as adding some visual appeal to the exterior of the case. The use of a fabric 78 to cover portions of the case also allows the case to be constructed from any number of materials. For example, not only plastics but lightweight metals and other known lightweight materials can be utilized in the construction of the case without affecting the attachment of covers to the access openings formed within the case. The fabric can attach to most materials through the use of adhesives or may actually be physically attached to the case through the use of known attachment systems such as hook and pile and rivets.

Figure 8 depicts a case like that shown in Figure 6, but in this alternate embodiment, access openings 68 are covered by a zippered fly 72. The zippers on zipper fly 72 extend up to the top of perimetrical sidewall 18. Lid 16 in this embodiment is designed to close over the top of the zippers on fly 72 thereby preventing any access to the zippers when lid 16 is closed.

Figure 9 is a partially broken away elevational view of an alternate embodiment of the present invention having indexing plate 26 located lower within housing 14. In this embodiment, the clubs rest upon their grips on the floor 20 of case 12 and the golf club heads are not supported. The indexing plate serves to guide the club shafts along the

5 perimeter of the indexing plate 26 in clubwells 42 depend downwardly from receiving aperture 30. In this embodiment, the central interior chamber is free from obstruction by club shafts but a larger variety or diversity of clubs can be carried within the case. Because the arrangement of club heads is not restricted in this embodiment, clubs such as oversized drivers or putters utilizing a unique design may be accommodated.

10 Figure 10 is a cross-sectional elevational view taken along lines 10-10 of Figure 9 further depicting the embodiment of the present invention. In this embodiment, only one dividing tray 48 is utilized to divide the case into an open section 80 and to close sections 82. Access to closed section 82 is provided through access openings 68. It will be appreciated that no shaft receiving apertures 30 are formed within indexing plate 26 in the area immediately adjacent to access opening 68. The absence of any shaft receiving apertures or clubwells allows free access to the central interior chambers of closed section 82 free from obstruction by clubs or clubwells. Access through access opening 68 is provided by unzipping a cover 70 which may also have attached thereto exterior and interior pockets. To close access openings 68, covers 70 may utilize any of the known attachment systems and even may be a rigid hinged door.

15 Still another embodiment of the present invention is illustrated in Figure 11. The embodiment illustrated in Figure 11 is a lightweight version of the inventive golf club case which replaces the relatively rigid housing construction of the previous embodiments with a frame and cover construction. This embodiment of the inventive case is still unitary but is more flexible and more lightweight. In the embodiment illustrated in Figure 11 a rigid floor 22 is attached to the bottoms of four of the clubwells 42. In this embodiment the clubwells form the exterior and interior walls of the case and are covered by a fabric for a smooth appearance. The clubwells are attached at their tops in a indexing plate 26 to guide the shafts of the clubs around the perimeter of the case providing for a central interior chamber free from obstruction by clubs. As the clubwells 42 provide the structural rigidity for the case, and no clubwells can be placed so as to block access to the central interior chamber through access opening 68, a thin plate 92 is provided to cover the space between the clubwells 42 above and below the access openings 68. Dividing trays 48 also add to the structural rigidity of the case. The weight savings in this embodiment is further enhanced by not providing continuous clubwells from the indexing plate 26 to the bottom 22. As only four clubwells need to extend the entire length to join the indexing plate to the bottom, some of the wells may be only intermittent. This can be accomplished by placing portions of tubes between the continuous wells. It is important

5 that enough tubing is supplied so that the club shaft will be guided sufficiently as the club is placed through the shaft receiving aperture and is lowered into the clubwell.

 Figure 12 is a horizontal cross-sectional view of the embodiment illustrated in Figure 11 further depicting the structural elements of the embodiment. A series of clubwells are shown encircling most of the case 12. To complete the enclosure of the central interior chamber 28, a thin plate 92 is positioned around access opening 68 to prevent objects from within the bag from falling out into that additional structural rigidity. If fabric 78 encloses the wells to provide a smoother appearance to the bag and to serve as a surface from which to hang pockets, loops and other equipment which is easier fastened to a fabric than to the other materials of the case.

10 Although the general intent of this golf club case is to store as much as possible within the previously, inefficiently-used space in the interior of the case, it is understood that some items may be more quickly accessed if hung from the exterior of the bag during play and stored within the bag at other times. This is especially true for items such as towels and umbrellas which need to be accessed quickly when they are needed or are best carried outside such as when they are wet or dirty. To accommodate this use, a pair of umbrella loops 74 are attached to the outside of housing 14 along with towel hook 76. Although the housing is preferably constructed of a material such as a light-weight metal or PVC (polyvinyl-chloride) plastic, for aesthetic purposes, the housing may be covered in a fabric material such as woven nylon. The housing in some embodiments comprises a rigid frame upon which a fabric is affixed. This frame may be provided by the clubwells themselves.

15 In some embodiments, woven nylon fabric is attached to portions of housing 14. This fabric conveys beneficial characteristics such as mar resistance from carts and additional padding for comfort during carrying. For example, on portions of the housing which receive frequent wear such as the portions of the housing which rub against the golf cart or rub against the bearer of the case, padding and extra fabric may be added to increase the life of the case and to increase the comfort to the bearer. Colors may also be incorporated into the fabric to distinguish the cases from one another.

20 To impart an additional degree of safety to protect the case from being marred during transport, a cover may also be provided which slides over the entire case and closes at the bottom with a lock. Although the golf clubs are protected by the case, the case, itself, may undergo abuse during transport and so this extra cover may be preferred by some users. A handle may be incorporated into this cover to replace handle 56 which will be covered. Wheel assembly 54 will remain uncovered.

5 From the foregoing, it should be apparent that one advantage of the instant invention is that much of the space previously unused within a golf bag is now efficiently utilized. This utilization of interior space provides many advantages. For example, both the clubs and the equipment stored within the bag are now protected from rain and can more easily be protected from theft. The clubs are also protected from each other, a
10 feature taking on more significance with the popularization of graphite shafts.

 In addition, no extra effort is required when shipping or transporting the golf clubs as the clubs may be transported within the case without a special transport box. The access provided to the central interior chamber through the access openings can be had through the front sides back of the case. By altering the location of the dividing tray and
15 the indexing plate, the bag may be customized for clubs of differing lengths and for the storage of equipment of differing sizes. The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by
20 the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

 What is claimed is:

CLAIMS:

1. A golf club case intended for use in carrying, storing and protecting golf clubs and other golf accessories, the golf club case comprising:

a) a unitary housing sized to substantially enclose golf clubs, said housing comprising:

i) a unitary perimetrical sidewall having a top end and a bottom end;

ii) a floor attached to the perimetrical sidewall at the bottom end to form a central interior chamber within the housing; and

b) an indexing plate mounted within the perimetrical sidewall to enclose a portion of the central interior chamber, the indexing plate serving to orient the golf club heads placed on the indexing plate;

c) shaft receiving apertures formed through a portion of the perimeter of the indexing plate;

d) a plurality of wells formed in a portion of the perimeter of the housing, the wells extending from the shaft receiving apertures of the indexing plate downwardly toward the floor of the housing; and

e) an access opening formed through the perimetrical sidewall, the access opening and the central interior chamber being in direct communication and free from obstruction by golf club shafts.

2. A golf club case as recited in Claim 1, wherein one shaft receiving aperture is formed for each golf club.

3. A golf club case as recited in Claim 1, wherein the case further comprises a handle formed in the housing for pulling the case behind the user.

4. A golf club case as recited in claim 1, wherein the case further comprises a cover capable of enclosing the entire case to prevent access to the contents of the case and to protect the case during transport.

5. A golf club case as recited in Claim 1, wherein the access opening further comprises an access opening cover attached at one end near the access opening in the housing and having at the other end a zippered opening to provide selective access to the central interior chamber.

5 6. A golf case as recited in Claim 5, wherein the access aperture cover further comprises an interior pocket attached to the inside of the cover such that the interior pocket can be accessed when the cover is opened.

10 7. A golf club case as recited in Claim 1, wherein the case further comprises a lid hingedly attached to the housing.

 8. A golf club case as recited in claim 7, wherein the lid further comprises a latch capable of securing the lid to the housing when the lid is shut.

15 9. A golf club case as recited in Claim 7, wherein the housing further comprises a lock capable of locking the lid to the housing when the lid is shut to prevent unauthorized access to the golf clubs.

20 10. A golf club case as recited in Claim 1, wherein the case further comprises means for attaching a pull-cart to the housing.

 11. A golf club case as recited in Claim 10, wherein the means for attaching a pull-cart comprises indentations formed within the housing which compliment structures on the pull-cart so that the housing can be attached to the pull-cart.

25 12. A golf club case as recited in Claim 1, wherein the case further comprises a strap for carrying the case.

30 13. A golf club case as recited in claim 12, wherein the case further comprises means for positioning the strap in the center of the case.

 14. A golf club case as recited in Claim 12, wherein the means for positioning a strap comprises a clasp on the strap and an inclined rod attached to the housing, the rod being inclined upwardly toward the center of the housing.

35 15. A golf club case as recited in Claim 1, wherein the case further comprises an alarm capable of sensing movement of the case and warning the owner of the case of that movement.

5 16. A golf club case as recited in Claim 1, wherein the housing further comprises a dividing tray placed transversely across the central interior chamber to divide the central interior chamber into smaller chambers.

10 17. A golf club case as recited in Claim 1, wherein the case further comprises a finger groove formed in the floor of the housing to facilitate the grasping of the housing by the user when lifting the case.

15 18. A golf club case as recited in Claim 1, wherein the case further comprises rings placed on the outside of the housing for holding golfing paraphernalia.

 19. A golf club case as recited in Claim 1, wherein the case further comprises a fabric cladding to protect the case from scratches.

20 20. A golf club case as recited in claim 19, wherein the access opening cover is attached to the fabric cladding surrounding the access opening.

 21. A golf club case as recited in Claim 19, wherein the cladding incorporates a zippered fly, the zippered fly being capable of covering the access opening when the zippered fly is closed.

25 22. A golf club case intended for use in carrying and storing golf clubs and other golf accessories, each golf club having a head attached to a shaft, the golf club case having a housing to substantially enclose a set of golf clubs, said golf club case comprising:

- 30 a) a series of club wells attached to one another to form walls;
- b) a plate forming a wall, the plate being attached to the club wells to form a unitary perimetrical sidewall;
- c) a floor attached to the bottom of at least one of the club wells to form a central interior chamber within the club wells;
- 35 (d) an indexing plate mounted transversely between the club wells to enclose the central interior chamber; and
- (e) an access opening formed through the plate, the access opening and central interior chamber being in direct communication and free from obstruction by the club wells.

5

23. A golf club case as recited in claim 22, wherein the clubwells are enclosed with a fabric cover.

10

24. A golf club case as recited in claim 22, wherein the case further comprises a cover for the access opening so that the access opening can be selectively closed.

15

25. A golf club case intended for use in carrying, storing and protecting golf clubs and other golf accessories, the golf club case comprising:

a) a housing sized to substantially enclose a set of golf clubs, said housing comprising:

- i) a unitary perimetrical sidewall having a top end and a bottom end;
- ii) a floor attached to the perimetrical sidewall at the bottom end to form a central interior chamber therein; and
- iii) an indexing plate mounted across the top end of the perimetrical sidewall to substantially enclose the central interior chamber, the indexing plate serving to support and orient the direction and location of each golf club head;
- iv) a plurality of wells formed to extend contiguous to the length of the perimetrical sidewall, each of the wells having an opening formed in the perimeter of the indexing plate, and each well extending from the perimeter of the indexing plate downwardly contiguous with the sidewall toward the floor of the housing; and
- v) an angled clubwell having an opening in the indexing plate, the angled clubwell extending from the indexing plate angularly downwardly toward the bottom of the housing so as to minimally intrude into the central interior chamber;

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b) a lid hingedly attached near the top end of the perimetrical sidewall, the lid being capable of covering the indexing plate and any golf club head located thereon when the lid is closed;

35

c) an access opening formed through the perimetrical sidewall; and

d) wheels rotationally coupled to the bottom of the housing to facilitate rolling of the case relative to an external surface.

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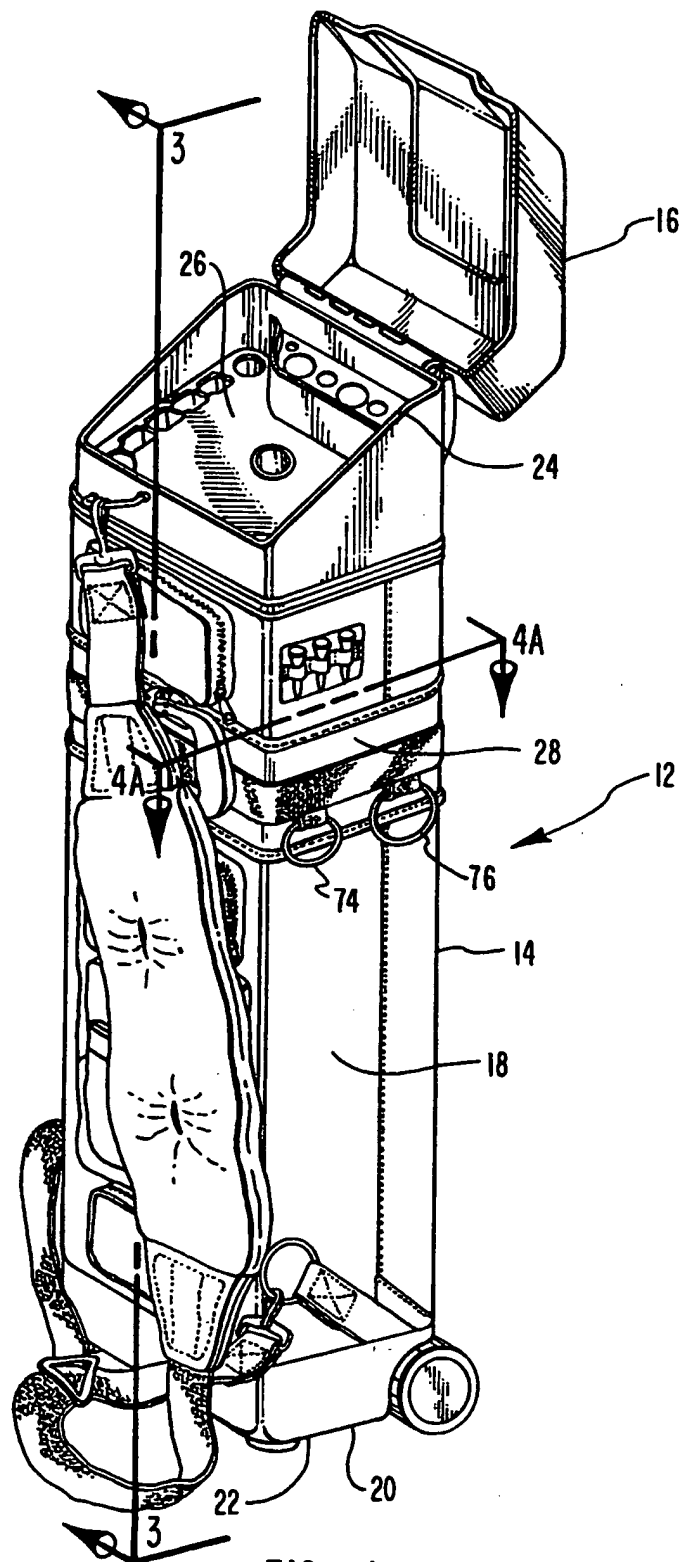


FIG. 1

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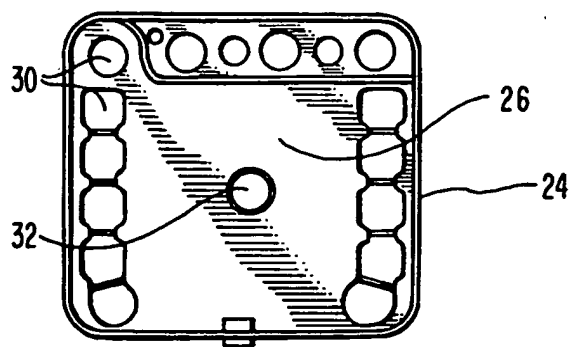


FIG. 2

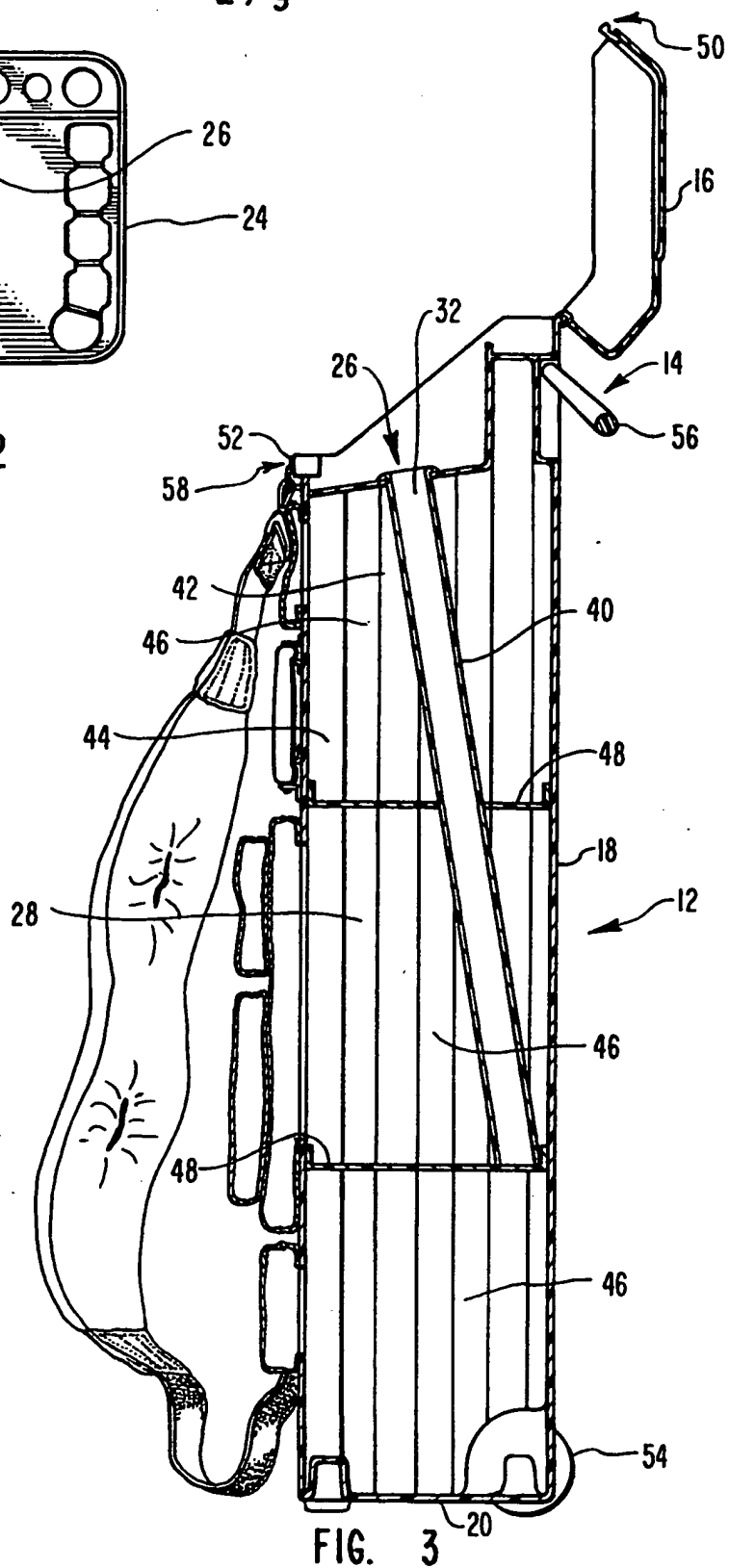


FIG. 3

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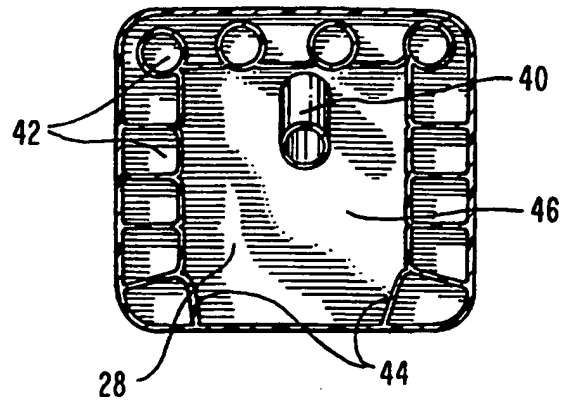


FIG. 4A

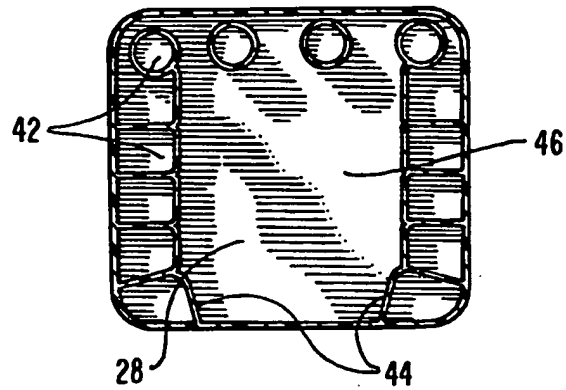


FIG. 4B

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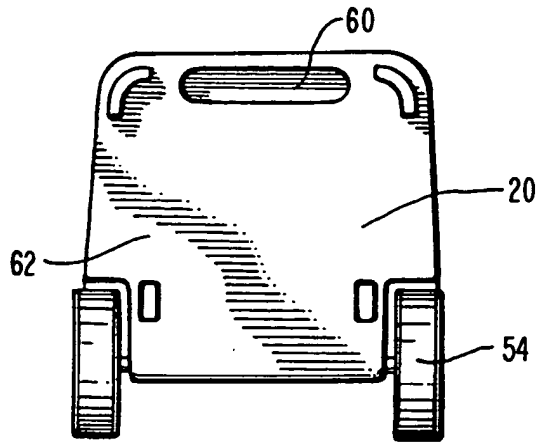


FIG. 5

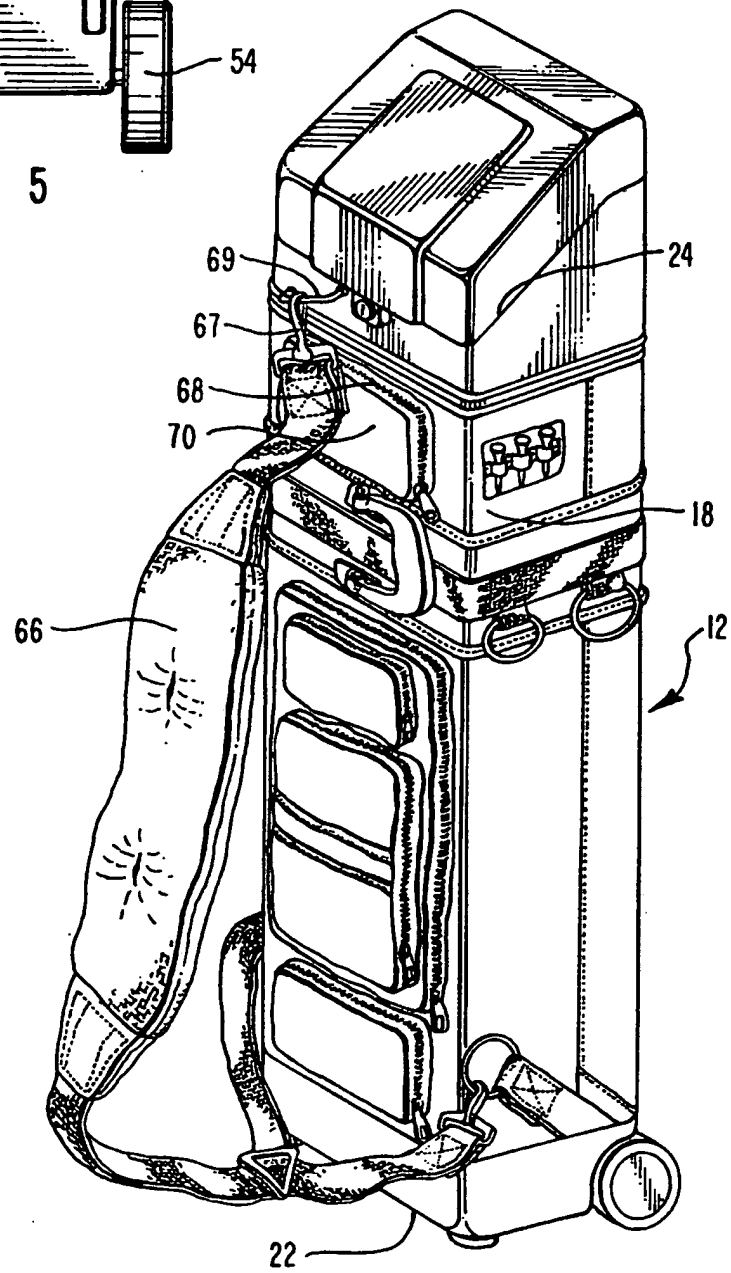


FIG. 6

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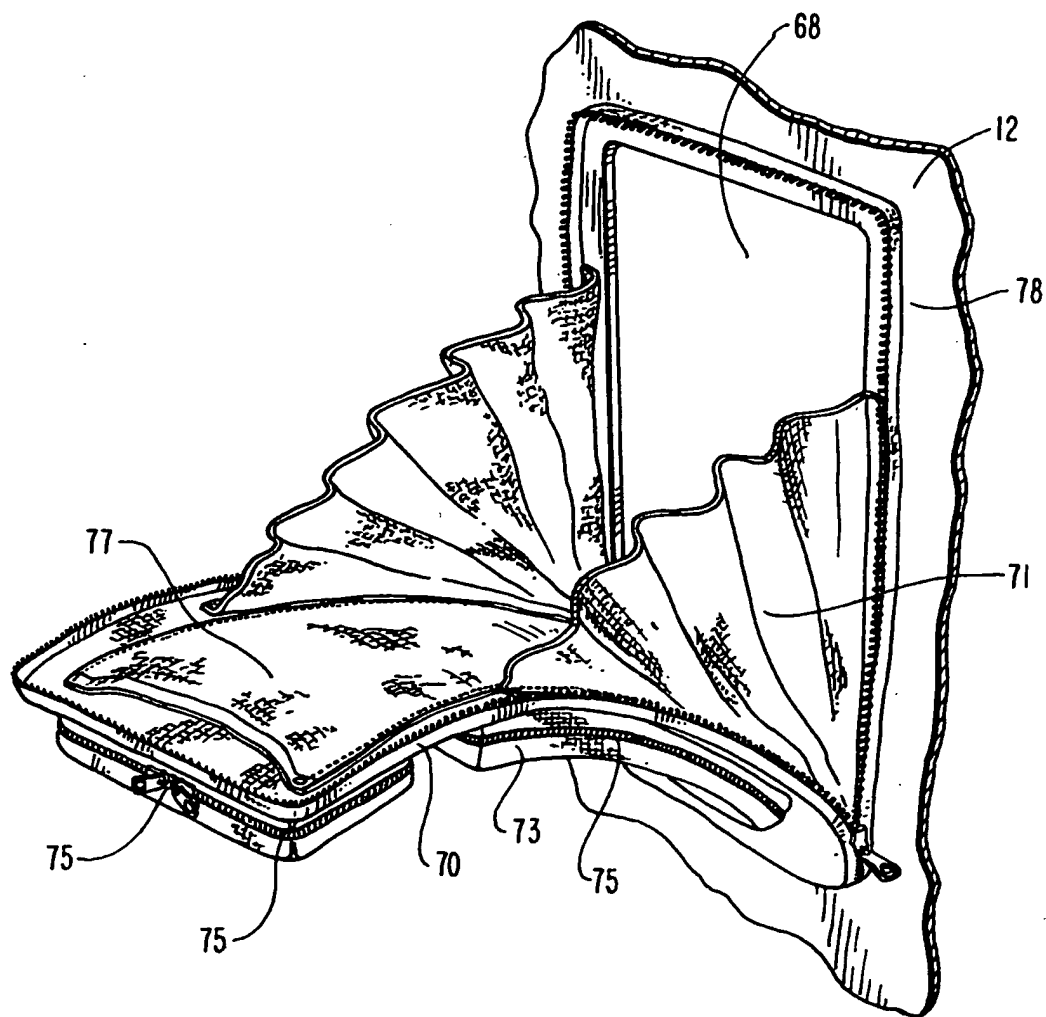


FIG. 7

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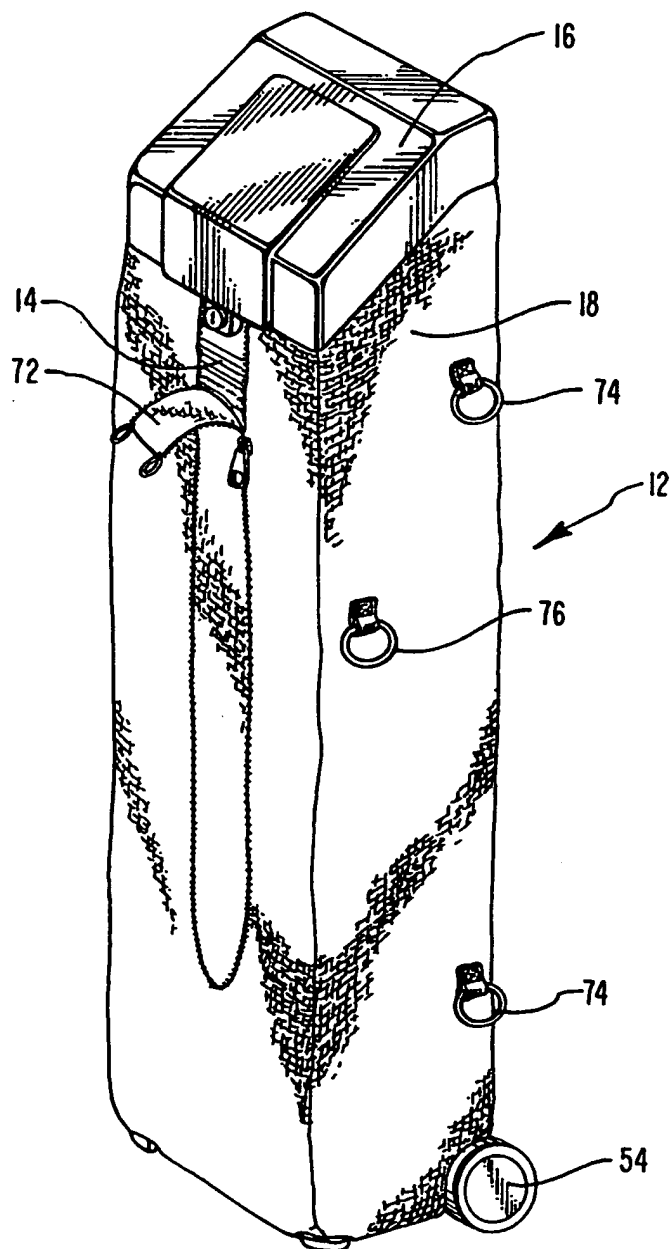


FIG. 8

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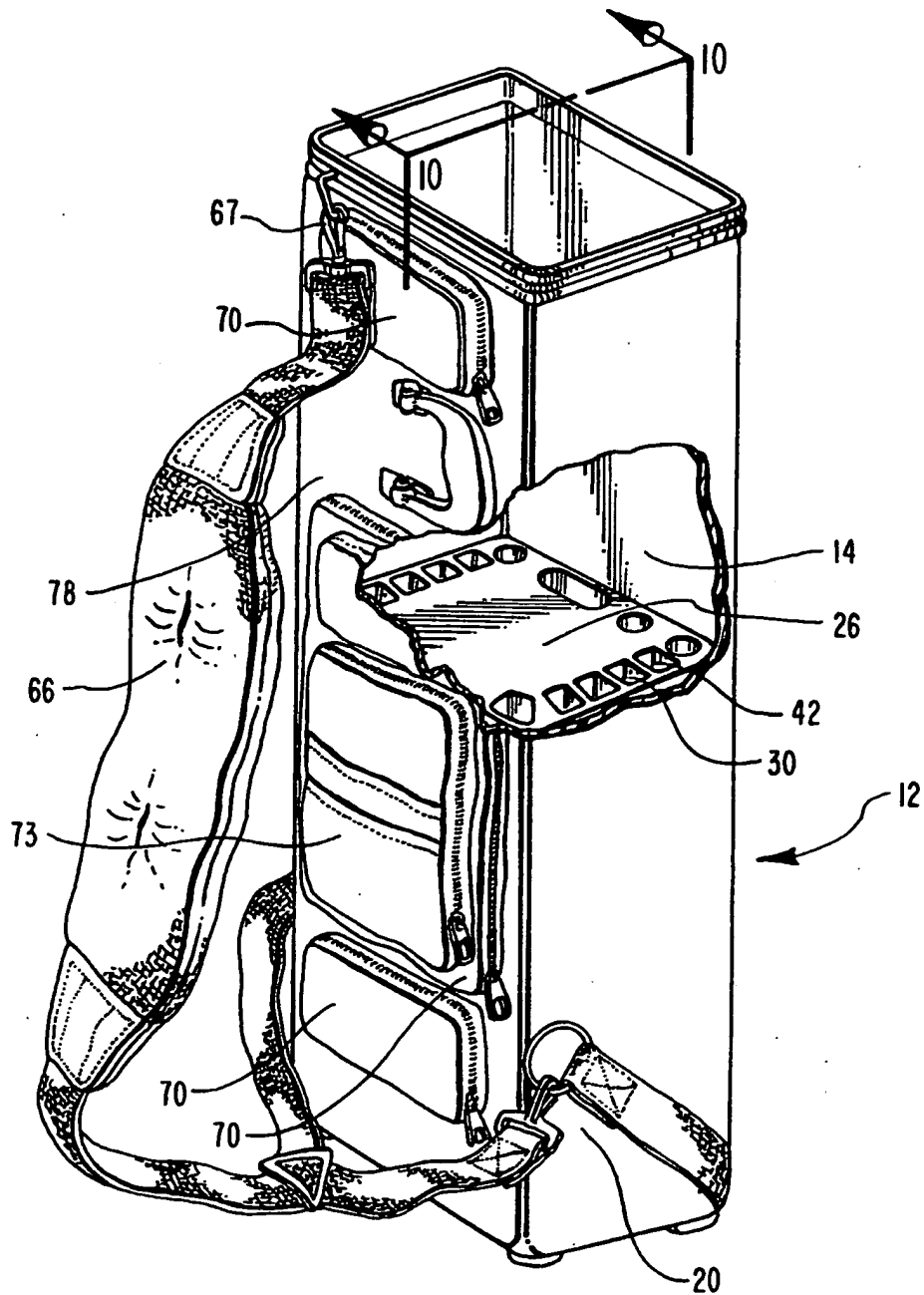


FIG. 9

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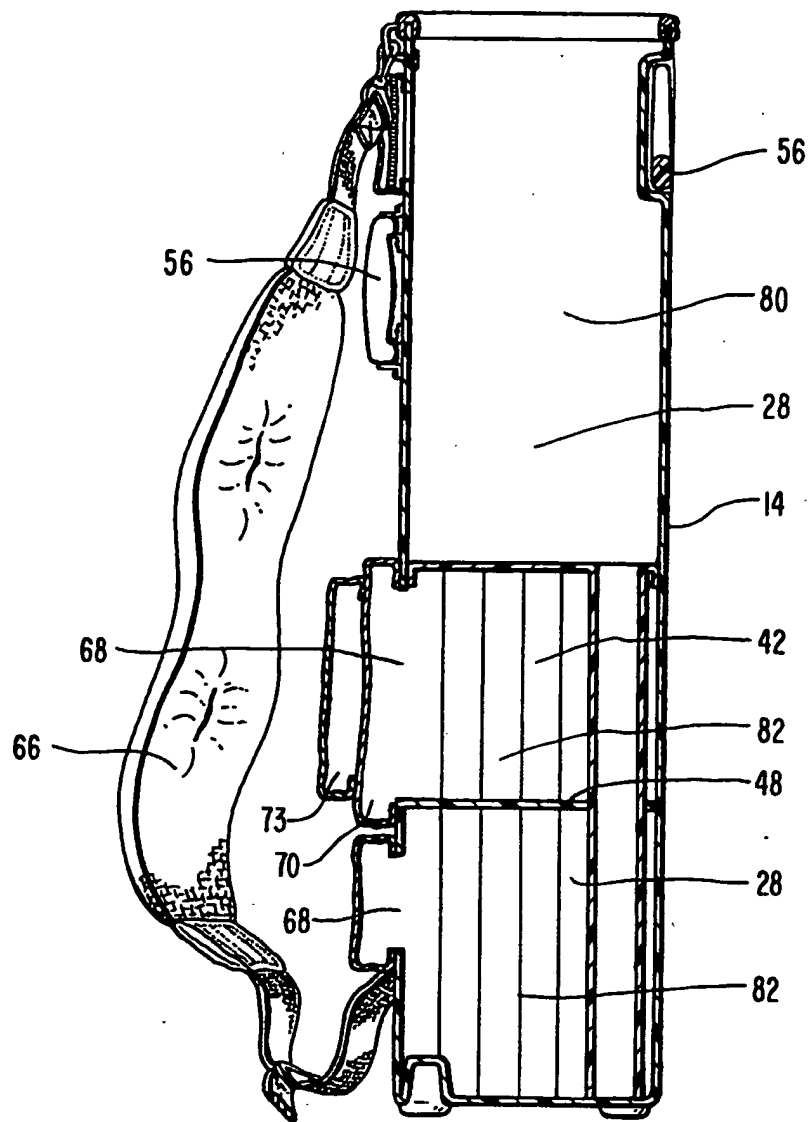


FIG. 10

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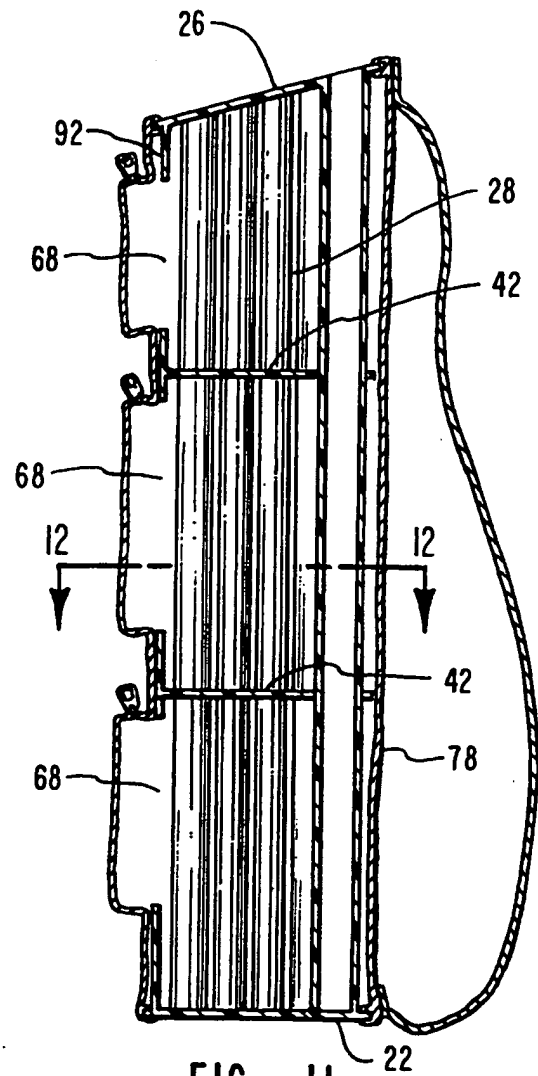


FIG. 11

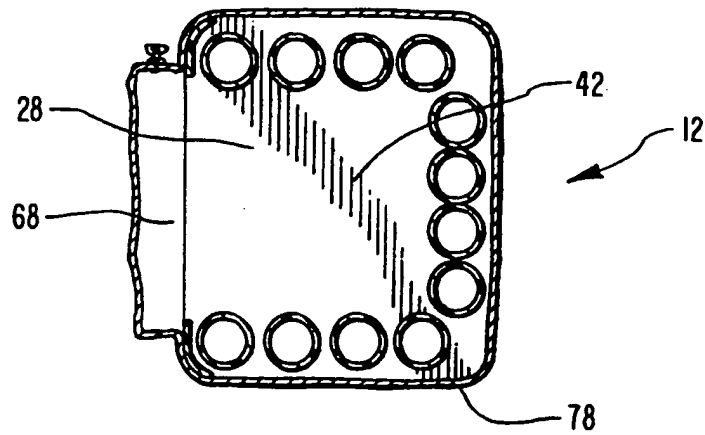


FIG. 12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/08292

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : A63B 55/00

US CL : 206/315.4, 315.6, 315.7

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 206/315.2, 315.3, 315.4, 315.5, 315.6, 315.7, 315.8; 224/202; 248/96

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	AU, A, 226,654 (ROELVINK) 19 June 1958, see col. 3, lines 11-26.	1, 3, 5, 7, 8, 12, 13, 16, and 18-21
Y	US, A, 3,530,919 (MAY) 29 September 1970, see col. 1, lines 62-67	1, 3, 5, 7, 8, 12, 13, 16, and 18-21
Y	US, A, 3,316,951 (JACOBSON) 02 May 1967, see col. 1, lines 37-51.	4
Y	US, A, 1,845,088 (HUNERHOFF) 16 February 1932, see page 1, lines 60-69	6
Y	US, A, 3,460,597 (DALY) 12 August 1969, see col.4, lines 32-39	9

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Z" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

07 AUGUST 1995

Date of mailing of the international search report

15 AUG 1995

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US95/08292

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	AU, A, 216,273 (WILLIAMS) 13 October 1955, see page 3, lines 34 and 35	10
Y	US, A, 4,522,299 (CLARK ET AL) 11 June 1985, see col. 4, lines 1-4	11
Y	US, A, 5,042,654 (JONES) 27 August 1991, see col. 3, lines 27-31	17
Y	US, A, 4,319,616 (LIGHT) 16 March 1982, see col. 3, lines 14-21	22-24
Y	GB, A, 2,134,797 (BENHAM) 22 August 1984, see page 1, lines 112-122	22-24
Y	WO, A, 9,216,266 (PHELPS) 01 October 1992, see the entire document	25
Y	US, A, 5,071,147 (STANSBURY) 10 December 1991, see col. 2, lines 40-46	25